

Examiner Amendment

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Norman Klivans on 4/9/10.

Amendment to the Title

The title of the application has been amended to recite: Method and Apparatus for Copying Copy Protected Optical Discs.

Claims

Claim 61 (currently amended): Apparatus for copying copy protected optical discs, the apparatus comprising:

a pickup which detects the data carried on an optical disc,  
a decoder coupled to the pickup and which decodes

the detected data,

a de-interleaver coupled to the decoder and which arranges the decoded data into an ECC block, and

an error correction decoder coupled to the de-interleaver and which determines error corrected data from the ECC block, and

an unscrambler coupled to the error correction decoder and which unscrambles the determined error corrected data and forms a data frame, and

the apparatus further comprises writing detected data onto an optical disc, and comprising:

a feedback shift register which scrambles the formed data frame,

an error correction encoder coupled to the feedback shift register and which encodes the data frame to form an ECC block,

a recording frame generator coupled to the error correction encoder and which interleaves the data in the ECC block,

an encoder coupled to the recording frame generator and which encodes the interleaved data,

a mastering portion which represents the encoded data on an optical disc, and

a disc copying program which selects the detected data from the ECC block, or the determined error corrected data, or the data frame and applies the selected data, respectively to the recording frame generator, the error correction encoder, or the feedback shift register.

Claim 64 (currently amended): A computer readable medium storing software or firmware for use with an optical disc drive to enable the copying of copy protected optical discs, the software or firmware comprising: instructions for providing data from an optical disc at a selected level which differs from the user data level, and instructions to write the read data from the selected level to an optical disc to create a copy of the disc, wherein the data levels at least comprise, from highest to lowest, the user data level, a data frame level, an error corrected level, an interleaved level, and an encoded data level, and wherein the software or firmware further comprises instructions to provide the data from the optical disc at a level above the encoded data level but below the user data level, and instructions to undertake writing the provided data to an optical disc, commencing at a data level which corresponds to the data level from which the data has been provided, and the instructions causing the writing to continue through the data levels to produce encoded data in the form of a bit stream, and to write the bit stream to the optical disc.

Claim 65 (currently amended): A computer readable medium according to claim 64, further comprising instructions to provide the data from the error corrected level without any error correction codes, and instructions to include while writing the generation of error correction codes for the read data.

Reasons for allowance

Claims 46-79 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art fails to disclose or suggest features in the claimed invention.

1. The reference Davis et al. (U.S. Patent No. 5,809,006) teaches copy-protected optical disk format, optical disk recording apparatus for creating disks having such formats and optical disk reading apparatus for reading disks having such formats for determining whether the disks are authentic. In one aspect, the an authentic optical disk has data bit indications along a spiral centerline of the disk, and these data bit indications define a radial wobble which has substantially greater energy at a predefined frequency than at a spatial channel clock frequency. In another aspect, the authorized optical disk has data bit indications along a substantially spiral centerline of the disk, according to a channel clock whose frequency varies across the disk. The disk also has stored, thereon an indication of the number of such channel clock cycles which occur along a predetermined test segment of the centerline. Since normal copying techniques, do not copy the exact channel clock rates on the disk, and since the copying equipment will introduce its own channel clock variations across the resulting disk, the predetermined test segment on the copy will not have the number of channel clocks as that specified by the data indicating the number of channel clock cycles to expect along the test segment.

2. However, the reference Davis et al. (U.S. Patent No. 5,809,006) does not teach wherein the data levels at least comprise, from highest to lowest, the user data level, a data frame level, an error corrected level, an interleaved level, an interleaved level, and an encoded data level, and wherein the data is provided from the optical disc at a level above the encoded data level but below the user data level, and writing the provided data to an optical disc, commencing at a data level which corresponds to the data level from which the data has been provided and continuing through the data levels to produce encoded data in the form of a bit stream, which bit stream is written to the optical disc.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be labeled "Comments on Statement of Reasons for Allowance."

### Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Enam Ahmed whose telephone number is 571-270-1729. The examiner can normally be reached on Mon-Fri from 8:30 A.M. to 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Baderman, can be reached on 571-272-3644.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained

from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EA

4/10/10

/Scott T Baderman/  
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